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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,159	10/31/2003	Daniel C. Conrad	US20010201	1600
7590 10/09/2007 WHIRLPOOL PATENTS COMPANY - MD 0750 Suite 102 500 Renaissance Drive St. Joseph, MI 49085			EXAMINER KHAN, AMINA S	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 10/09/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/699,159

Applicant(s)

CONRAD ET AL.

Examiner

Amina Khan

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 79-95 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 79-95 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is in response to applicant's arguments filed on September 4, 2007.
2. Claims 1-13 and 79-95 are pending. Claims 14-78 have been cancelled.
3. All previous rejections are withdrawn.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1,2,5,6,8-11,79-89,92 and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Estes et al. (US 2002/0056164) in view of Radomyselski et al. (US 2005/0000897).

Estes et al. teach methods of cleaning comprising delivering a substantially non-reactive, non-aqueous, non-oleophilic, apolar working fluid and at least one washing additive to fabrics in a wash container, applying mechanical energy to clothing and wash liquor, substantially removing the wash liquor from the fabric load (abstract), capturing and condensing the working fluid and filtering it (page 5, paragraph 0066), as

claimed in claims 1 and 8. Estes further teaches that the working fluid has the following properties: surface tension of less than or equal to 35 dynes/cm<sup>2</sup>; a KB value of less than or equal to 30; and a solubility in water of less than about 10% (page 2, paragraph 0020), as claimed in claims 1 and 9. Estes further teaches that the cleaning compositions comprise washing adjuvants such as surfactants, enzymes, bleaches, deodorizers, fragrances, antistatic agents, and anti-stain agents (page 2, paragraph 0024), as claimed in claim 6. Estes et al. further teaches that the filtered fluid can be reused on fabrics (See Figure 8, #117, #118 and #108).

Estes et al. are silent as to the type of filter used in the filtration process and does not specifically teach cross membrane filters or spin disc filters.

Radomyselski et al. teach purifying dry cleaning solvent by using membrane filtration (paragraph 0129) wherein the membranes are polymeric or non polymeric such as ceramic with pore sizes of 10-100 Angstroms (paragraphs 0063-0068). Radomyselski et al. further teach treating the fluid by cooling to at least about 5°C prior to filtration through spiral wound membrane units, wherein the lipophilic fluid permeates through the membrane and the contaminants such as water are routed back to the reservoir (paragraph 0177), which meets the limitation of two separate flow paths. The lipophilic fluid is further filtered through an adsorbent material (paragraph 0175). Radomyselski et al. teach up to 100% removal of contaminants (paragraph 0114).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the methods taught by Estes et al. by incorporating the membrane filters taught by Radomyselski because Radomyselski teaches the water

and particulate removal benefits and working fluid purification benefits imparted by these filters to non-aqueous dry cleaning fluids in dry-cleaning applications. Regarding the level of contaminant removal, one of ordinary skill would expect the filters of Radomyselski to provide these because the reference teaches treating similar fluids with similar filters with similar pore sizes in similar methods. One of ordinary skill in the art would have been motivated to combine the teachings of the two references absent unexpected results.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Estes et al. (US 2002/0056164) in view of Radomyselski et al. (US 2005/0000897), as applied to the claims above, and further in view of Radomyselski et al. (US 2003/0226214).

Estes and Radomyselski et al. '897 are relied upon as set forth above.

Estes and Radomyselski et al. '897 HLB values.

Radomyselski et al. '214 teaches dry cleaning methods comprising the use of Neodol® surfactants, which have HLB's in the range of 8-15, as conventional components in dry cleaning operations (page 10, paragraph 0140).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the methods taught by Estes and Radomyselski et al. '897 by incorporating the surfactants taught by Radomyselski '214 because Radomyselski '214 teaches the conventional use of surfactants of the claimed HLB values in dry cleaning compositions. One of ordinary skill in the art would have been motivated to combine the teachings of the two references absent unexpected results.

7. Claims 3,4,12,13,94 and 95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Estes et al. (US 2002/0056164) in view of Radomyselski et al. (US 2005/0000897), as applied to the claims above, and further in view of Berndt et al. (US 6,086,635).

Estes and Radomyselski are relied upon as set forth above.

Estes and Radomyselski do not teach spin discs.

Berndt et al. teach methods of dry cleaning comprising placing articles in a rotating cleaning basket, adding Class 3-A type solvents, specifically siloxane, agitating articles in solvent, extracting the solvent, recovering condensed vapors and filtering the solvent using a diatomaceous earth type in combination with a spin disc (column 3, line 30 to column 4, lines 15-47). Berndt et al. further teach polymeric filters which separate the water and lipophilic fluid into two streams (see Figure 4; column 5, lines 15-65). Berndt et al. further teach contacting the filters with condensed vapors prior to separation (column 4, lines 15-28 and lines 40-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the methods taught by Estes and Radomyselski by incorporating the spin discs taught by Berndt because Berndt teaches these filters provide sufficient filtration means for contaminant removal in dry cleaning. One of ordinary skill in the art would have been motivated to combine the teachings of the references absent unexpected results.

8. Claims 90 and 91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Estes et al. (US 2002/0056164) in view of Radomyselski et al. (US 2005/0000897), as applied to the claims above, and further in view of Hallman (US 2003/0196277).

Estes and Radomyselski are relied upon as set forth above. Radomyselski teaches further filtering fluids in adsorbent filters after membranes (paragraph 0129).

Estes and Radomyselski do not teach dead end filtration.

Hallman teaches filtration comprising a mechanical, particulate filters and a water absorbent media (page 3, paragraph 0033).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the methods taught by Estes and Radomyselski by incorporating the water absorbent media taught by Hallman for the absorbent filters taught by Radomyselski because Hallman teaches efficient contaminant removal benefits imparted by exposure of the working fluid to these filters in dry-cleaning applications and efficient regeneration of dry cleaning fluids. One of ordinary skill in the art would have been motivated to combine the teachings of the two references absent unexpected results.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amina Khan whose telephone number is (571) 272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*AK*

AK  
September 29, 2007

*Lorna M. Douyon*  
LORNA M. DOUYON  
PRIMARY EXAMINER